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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,813	09/26/2000	Timothy M. Schmidl	TI-29351	3706

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Robert N Rountree Esq
Texas Instruments Incorporated
P O Box 655474 MS 3999
Dallas, TX 75265

EXAMINER

BURD, KEVIN MICHAEL

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/669,813

Applicant(s)

SCHMIDL ET AL.

Examiner

Kevin M Burd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-28 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6</u> . | 6) <input type="checkbox"/> Other: _____ |

1. This office action, in response to the amendment filed 3/25/2004, is a final office action.

Response to Arguments

2. The previous objection to the drawings is withdrawn and the examiner approves the newly submitted drawings.
3. Applicant's arguments with respect to claims 1-6 and 9-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 and 9-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the instant application's disclosed prior art in view of Watanabe (US 6,044,104).

Regarding claims 1 and 24, the instant application's disclosed prior art discloses a WCDMA system (page 1, lines 3-7). WCDMA systems operate in wireless environments and transmit wireless signals from transmitter to receivers. It is inherent that these receivers comprise at least one antenna. The receiver will receive a plurality of frames wherein each frame comprises a plurality of slots (page 4, lines 6-14). The

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time slots comprise symbols and the symbols comprise paths (page 4, lines 17-21).

Circuitry is disclosed for correlating a primary synchronization code (page 4, lines 6-8).

One or more paths within the evaluated time period are found to have relatively large PSC correlations and the positions of these paths are used to identify the timing of the

incoming frames (page 4, lines 17-20 and figure 1). Continuing with the prior art, the

user station defines a time slot window 10 shown in figure 1 and a search window 20,

where typically search window 20 is a time period centered about a path P1 (page 5,

lines 4-7 and figure 1). The receiver identifies a number of paths corresponding to the

respective peak locations of spectrum 30, and those paths are then further processed

so that diversity may be exploited toward recovering the actual symbols from the

various paths such as combining those paths (page 5, lines 16-19). This search window

is on the order of one-tenth the duration of the time slot window 10 (page 5, lines 7-9).

The instant application's disclosed prior art does not disclose the search window is

divided into a plurality of sub windows. Wantanabe discloses the search window is

divided into a plurality of correlation search widths as shown in figure 2. Each of these

correlation search widths is a "sub window". It would have been obvious of one of

ordinary skill in the art at the time of the invention to incorporate the teaching of

Wantanabe into the system of the instant application's disclosed prior art. This would

allow for the system to carry out a fast cell search and reduce power consumption

(Wantanabe, column 2, lines 52-57). Since the sub windows are shown in the same

search window and a search window is comprised in one time slot, the sub windows are

comprised within one time slot.

Regarding claims 2-4 and 25, a joint detector that includes a rake receiver and an equalizer function combines the various identified paths (page 5, lines 23-26). The rake receiver despreads the signal.

Regarding claims 5 and 6, the time slot consists of symbol information and the search window is on the order of one-tenth the duration of the time slot window 10 (page 5, lines 7-9).

Regarding claims 9, 17 and 26, a delay profile estimation is conducted across each sample position in each search window and the selected paths are selected in response to the delay profile estimation (page 5, lines 13-19).

Regarding claims 10-12, 18 and 27, the delay profile estimation correlates the primary synchronization code and the secondary synchronization code to identify the timing of incoming frames (page 4, lines 17-21) and identify unique base stations (page 4, lines 24-30).

Regarding claims 13, 19 and 28, the number of sample positions in the search window is less than the number of sample positions in the entire time slot window (figure 1).

Regarding claims 14-16, a joint detector that includes a rake receiver and an equalizer function combines the various identified paths (page 5, lines 23-26). The rake receiver despreads the signal.

Regarding claim 20, the frames comprise time division duplex frames (page 5, lines 22-26).

Regarding claim 21, the frames comprise frequency division duplex frames (page 5, lines 22-26).

Regarding claim 21, the receiver comprises a CDMA receiver (page 3, lines 1-27).

Regarding claim 23, the receiver comprises a WCDMA receiver (page 2, lines 3-20).

Allowable Subject Matter

5. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications; please mark "EXPEDITED PROCEDURE" or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Kevin M. Burd
PATENT EXAMINER
5/25/2004